

THE GEORGE GILDER REPORT



THREE SPECTRUM MILLIONAIRE MAKERS

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Three Spectrum Millionaire Makers

I have somewhat of a reputation for predicting the *next big thing*. I don't know about all that, but I will say I have gotten it right on more than one occasion.

I handed Ronald Reagan an early microprocessor with the immortal words "this tiny piece of plastic will transform our world forever." I also predicted the rise of the internet economy way back in the mid 1990s — before most people even had an email address.

Now, all clout aside I'm predicting the next big thing and it has to do with these tiny boxes.

According to one Columbia professor, these boxes will create \$180 billion in new wealth for America – starting this year.

But that's almost certainly wrong. The real value could easily be 100 times bigger than that.

See, tech insiders' consider this technology SO valuable that recently Silicon Valley's top executives did something extraordinary.

They put competition aside... and JOINED FORCES to back this new technology.

We're talking about some of the most powerful companies in America: Apple, Google, Microsoft, Facebook, and Intel (just to name a few).

And they all publicly joined together with one goal — To make the technology in these boxes a reality at last.

And as this tech appears across America in the coming weeks, it'll trigger a wave of sudden, sweeping change that we haven't

seen in America for decades.

Soon, it'll be everywhere — in your home, your office, your car, even in your pocket. It will radically alter everything from the way you shop for groceries, where you work, to how much you pay for basic utilities.

You see, since the emergence of radio, television, and radar nearly a century ago, the government has maintained a tightly controlled monopoly over the entire radio spectrum.

It doles out licenses to different parts of the spectrum to all kinds of industries.

Radio stations get one part of it.

TV stations, cell phone operators and energy companies get another.

The military... NASA... and other government agencies control huge bands of it.

But on July 27, 2020 something big happened...

The FCC opened up a NEW band of unlicensed spectrum.

Wifi 6 was born. And it's opening up a whole new world for tech.

Just in time, too...

- According to Cisco projections, the amount of mobile data traffic will double in the next two years.
- The amount of data used by the average smartphone in America will increase by 500% between 2018 and 2024.
- And a staggering 59% of that traffic isn't running via your cell operator – it's bumped across to Wifi networks.

In other words: we desperately need more unlicensed spectrum. So wifi6 couldn't have arrived at a better time.

And the three stocks that you absolutely must buy today if you want to profit from the unlicensed spectrum.

Pick #1: Qualcomm (QCOM)

I prophesied the ascent of Qualcomm in my book, *Telecosm*, published at the dawn of the 21st century.

Qualcomm's valuation got dragged down in the dot com bust muck like everybody else but has since rebounded nicely. The company today commands a \$99 billion market capitalization and is one of the premier wireless communications technology companies in the world.

Intent on leading the revolution in wireless communications, Qualcomm — in the spirit of Drucker — is pursuing opportunities in next-generation wireless communications.

The company recently announced it has launched a \$200 million 5G Ecosystem Fund to invest in next-gen uses beyond mobile phones.

Steve Mollenkopf, Qualcomm's CEO, noted this fund intends to fuel innovative businesses that will be poised to take advantage of the \$13.2 trillion — that's trillion with a T — economic benefit that next-gen tech will enable during the next 15 years as wireless communications migrate into higher telecosmic realms.

Industry experts expect this new wave of wireless to have a significantly greater impact than any previous generation of cellular technology and fuel a new era of innovation.

Investment opportunities are certainly abundant, especially in the age of IoT and tens of billions of connected devices. Qualcomm is diving deeper more than ever today to pursue the myriad opportunities associated with this opportunity.

Indeed, Qualcomm is It's easily the world's #1 "spectrum sharing" technology firm. It had chipsets built and ready to ship before the government even legalised the 6 GHz band.

Qualcomm Wi-Fi 6 solutions are helping support a technology transition that will impact nearly every kind of connected device — from smartphones to cars to the burgeoning IoT. Ranging in infrastructure application from our homes, to airports, cam-

pushes, and the enterprise, our Wi-Fi 6 solutions, spanning operation across all three spectrum bands, build on our world-class engineering capabilities to connect users and devices like never before, with game-changing advancements that go beyond the standards to deliver the speed, low-latency, and coverage needed for immersive, high-performance user experiences.

Even sweeter, Qualcomm supplies Apple, Google, Microsoft (all trillion-dollar companies) and scores of others. If firms want to roll new devices out, they'll need this company's tech. And we need to be a part of it.

Action to take: Buy Qualcomm (QCOM) at market.

Pick #2: Comcast (CMCSA)

Comcast has two businesses: selling entertainment and selling bandwidth — or as we put it content vs. conduit.

Comcast's Xfinity internet service is the largest provider of true broadband internet to US households and holds a huge technological advantage over the legacy telcos such as Verizon and AT&T.

Comcast's network is a hybrid of fiber-optic trunk-lines and coax cable for the last mile, or less. Co-ax technology keeps getting better and now provides true broadband — as much as a gigabit per second under optimal conditions — over the relevant distances.

Comcast announced that its next-generation xFi Advanced Gateway, its first device capable of delivering true multi-gigabit speeds, will begin rolling out to customers in the coming months. Comcast, the nation's largest gigabit speed provider, now becomes one of the first US Internet Service Providers to offer a WiFi 6 Certified gateway delivering faster speeds, ultimate capacity, lower latency and best-in-class WiFi coverage throughout the home.

Xfinity Internet power users are connecting on average 50 devices in the home per month and, globally, an additional 100 million smart home devices are expected to be added to home networks

by 2023. The xFi Advanced Gateway is designed for high-performance users to handle more capacity for even more smart home devices coming online today and in the future. This gateway delivers exceptionally lower latency for an unrivaled cloud and online gaming, 4K video streaming, and VR and AR experiences, as these applications increasingly become mainstream.

The gateway also provides unprecedented WiFi signal range, blanketing the vast majority of most homes with ultra-fast speeds. Combined with xFi pods, customers can create their own personalized mesh WiFi networks throughout their home.

Comcast is going to be central to bringing this new technology right into your home. It already supplies close to 58 million homes and businesses across America. Its network is already growing at an exponential rate — doubling roughly every 18-24 months. As Wifi 6E rolls out across America it's THIS company that will likely be on the frontlines.

As stated on the company's website:

“We designed the next-generation Advanced Gateway to be the fastest, smartest, and most powerful WiFi device on the planet to continue to deliver on our promise of bringing our customers a great broadband experience,” said Kunle Ekundare, Director of Product and Hardware Management, Comcast. “The xFi Advanced Gateway is truly the best Internet product we’ve ever built, and we’re thrilled to be bringing our customers into the future with WiFi 6.”

Well, we certainly would like to be a part of that future.

Action to take: Buy Comcast (CMCSA) at market.

Pick #3: Infinera (INFN)

I first met Dave Welch in the late 1990s when he was the chief technology officer at JDS Uniphase. Makers of lasers, modulators, and amplifiers for fiber optics, Uniphase was becoming the “Intel of the Telecom.” But its stock collapsed like nearly everyone else's in the telecom financial crash of 2000.

Dave and I had a running debate...

The topic was the legitimacy of an all-optical network versus an optoelectronic network, of which Dave would become a great pioneer.

At the time, using the then prevailing metaphors of “information highways,” “lanes,” and “lambdas,” I was a photonic purist — pursuing my calculus of abundance and scarcity into blinding boulevards of light.

In other words, I believed in the dream of all-optical networks.

Dave Welch was having none of it. He claimed that wherever the signal had to be processed or addressed or error corrected or compressed, it would be necessary to convert the light into electronics.

According to Dave, optoelectronics would rule.

We argued in his office. We argued while touring his indium phosphide photonic integrated circuit fab. We definitely debated when I invited him to my *Telecosm* conferences back in the day.

I also remember I enjoyed the debate. What could be more fun than repeatedly encountering the smartest, most articulate, intellectually exciting advocate for the “other side” — and coming away every time still sure I was right?! Oh, the raptures of self-satisfaction!

And I was right, sort of — for about 10 years. Which, in retrospect, Dave surely knew.

He knew I was right for the time and might be right again. But he knew I would be wrong for the next generation. And he knew that by that time his brilliant new company, Infinera would save the day.

When Infinera was founded in 2000, most of the industry regarded the photonic integrated circuit (PIC) as not so much impossible as irrelevant. Why bother? The silicon needs to be separated anyway, with all components bundled in a module. The conventional wisdom was to do as much as possible with the good old

silicon we know so well. That approach was right, up to a point. And we have reached that point. Infinera freely concedes that for lower-speed, less-challenging devices, silicon photonics will do the job. But as my great friend and mentor, the late Clay Christensen, taught us, when a technology is pushing the limits of required performance, straining to meet the outer limits of demand — maximum integration becomes crucial. In this case, the decision to integrate all photonics onto the PIC also enabled Infinera to use an exotic material — indium phosphide — for all the functions for which it is better than or equal to silicon. Infinera's mission was to create a PIC that would include all the optical elements of the transceiver on a single device, and then pass the signal in electronic form onto the silicon DSP.

Time and time again quarterly earnings and milestones for Infinera have reinforced our investment thesis. To recap our thesis:

- Demand for optical bandwidth continues to grow, exponentially in bps and robustly in dollars.
- INFN, along with Ciena (CIEN) and Huawei, is now one of the three undisputed leaders in optical transport technology. Of the three, it is the technology leader in high speed (600-800 gig), long-haul carriage.
- INFN's mindshare with the biggest, most powerful vendors is growing fast, and will translate into bigger market share.
- INFN's stock has been undervalued in part because of the op-ex increases and gross margin slippage resulting from the Coriant acquisition — *challenges we believe INFN will successfully resolve.*
- The Coriant acquisition is broadening INFN's customer base, especially for the metro and data-center markets.

We expect to hold INFN for years. If you haven't got it in your portfolio yet, it's definitely time to buy.

Action to take: Buy Infinera (INFN) at market.

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